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RARITY OF MYASTHENIA GRAVIS IN NORTHERN NIGERIANS

A.G. Bakari and G.C.Onyemelukwe

Department of Medicine, Ahmadu Bello University Hospital, Zaria, Nigeria

ABSTRACT

This is a 10 year retrospective review of patients managed at the Ahmadu Bello Teaching hospital, Zaria, Nigeria for myasthenia gravis. Only 4 patients were identified from the hospital's records. Myasthenia gravis appears uncommon in this environment. Reasons for the apparent rarity of this condition and other autoimmune diseases in the environment are discussed.

Key words: Myasthenia gravis, northern Nigeria, autoimmunity

INTRODUCTION

Nigeria is the largest black nation in the world and is home to more than 100 million people. Geopolitically, it is divided in to north and south, each with diverse but distinct ethnic and cultural backgrounds. More than 50 percent of the population resides in the north. Although there are reports of myasthenia gravis from the southern part of Nigeria. [1] We are not aware of any reports from northern Nigeria. This is a report of cases seen in Ahmadu Bello University Teaching (A. B. U.) Hospital, the first and largest tertiary health institution in northern Nigeria.

PATIENTS AND METHODS

Medical records of patients seen at the department of medicine of A. B. U. Teaching Hospital, Zaria, Nigeria (outpatient clinics and medical wards), from January 1983 to December 1992, were reviewed. Four patients with myasthenia gravis were identified.

Case 1

An 18-year-old lady presented in 1983 with left ptosis associated with diplopia, symptoms were worse when reading. She had no other systemic symptoms, systemic examination confirmed left sided ptosis. Other examinations were normal, edrophonium test was positive confirming the diagnosis of myasthenia gravis. Chest radiograph, complete blood count, blood glucose, hepatic and renal function tests were all normal. She made remarkable improvement with pyridostigmine therapy and has been in remission since March 1988, necessitating withdrawal of pyridostigmine therapy in March 1989.

Case 2

A 27-year-old man presented in July 1985 with left sided headaches, left sided ptosis, diplopia, easy fatigability and dysphagia. Clinical examination confirmed the presence of ptosis but the rest of the clinical examination was normal. Edrophonium test was positive, confirming the diagnosis of myasthenia gravis. He was placed on

Correspondences to: Dr. A.G.Bakari, Department of Medicine, A. B. U. Hospital, Zaria, Nigeria. E-mail: abgirei@yahoo.com

pyridostigmine with good response but was lost to follow up after a year.

Case 3

A 45-year-old lady referred from a district hospital in November 1986 with a four-month history of progressive body weakness, dysphonia that got worse three weeks prior to admission and was quadriplegic on admission. The rest of the examination and chest radiograph were normal while the edrophonium test was positive. She died on the day of admission of respiratory failure. Relatives refused postmortem examination.

Case 4

An eleven-year-old boy was referred from a district hospital with a year history of diplopia, bilateral ptosis and throbbing headaches while reading. Six months later, He developed progressive exertional weakness relieved by rest. There were no associated cardiac or pulmonary symptoms. Clinical examination confirmed bilateral ptosis, paresis of the lateral and superior oblique muscles on the right and a positive edrophonium test. Other examinations were normal. Chest radiograph, chest tomogram as well as biochemical tests for glucose, renal, hepatic and thyroid function test were normal. He improved remarkably on pyridostigmine and is been followed up in clinic.

DISCUSSION

Myasthenia gravis is a rare acquired autoimmune disorder associated with a decrease in the quantity and quality of acetylcholine receptors at the motor neuromuscular end plate. [2] Although this study is retrospective and hospital based, and therefore likely to under represent the actual prevalence in the community, the fact that only four cases of myasthenia gravis were seen over a ten-year period in this Hospital which covers more than 10 million of the population, points to the rarity of the disorder in this population. The findings in this study are comparable to those in southern Nigeria where only five new cases of myasthenia gravis were observed over a five-year period in a 'busy' neurology clinic. [1] Auto- immune disorders are generally less common in the tropics than in temperate environments, this is thought to result from the influence of parasitic infestations that tend to suppress autoimmunity. In laboratory animals for example, malaria has been shown to suppress autoimmunity. [3] Other reasons for this low number may be due to the variable nature of the clinical features of myasthenia gravis that may be purely ocular as in 2 of our patients or generalized. [4] It is possible that most of those with ocular symptoms present to ophthalmologic clinics. There is also the possibility of others seeking alternative cures, a common in this environment.

Our patients were diagnosed mainly on clinical grounds and supported by the edrophonium test. The edrophonium test is however positive in only 84 percent of patients with generalized myasthenia and 60 percent of those with ocular myasthenia. [5] Other tests such as measurement of anti- acetylcholine receptor antibodies and electromyography serve as useful adjuncts in making a diagnosis. However, anti-acetylcholine receptor antibodies are reported to be present in 94 percent of patients with generalized myasthenia and only 29 percent of those with ocular myasthenia. Similarly, electromyography is diagnostic in only 71 % of generalized and 42% of ocular myasthenia gravis. [5]

Although the presentation in the first 3 cases is typical of myasthenia gravis, this limitation puts some question in our diagnosis in the fourth

case who might have been suffering from other causes of muscle weakness such as the Eaton-Lambert myasthenic syndrome. However, death from respiratory failure may occur in cases of generalized myasthenia gravis and the positive tensilon test makes it more likely to be myasthenia gravis. Myasthenia gravis is not a common presentation to the internist in this environment due to its rarity and possibly other factors.

REFERENCES

1. Greenwood BM, Francis TI. Myasthenia gravis in Africans. West Afr Med J 1967; 16:97-99
2. Ravits J. Myasthenia gravis: a well-understood neuromuscular disorder. Post Grad Med 1988; 83: 219-223
3. Greenwood BM, Herrick E, Voller A. Suppression of autoimmune disease in (NZB) and (NZB x NZW) F1 hybrid mice by infection with malaria. Nature 1970; 226: 266-267
4. Simpson JF, Westerberg MR, Magee KK. Myasthenia gravis: an analysis of 295 cases. Acta Neurol Scand 1966; 42 (suppl 23): 7-27
5. Beekman R, Kuks JB, Oosterhuis HJ. Myasthenia gravis: diagnosis and follow-up of 100 consecutive patients. J Neurol 1997; 244: 112-118